

1964 Programming Summary

Regular Funds

Program	Scientific Personnel	Other Direct	Total Direct	Tech & Adm.	Sub Total	Alb. IV	Total
Aquarium	26.7	6.0	32.7	9.3	42.0	-	42.0
Assessment of F. F.	36.1	4.0	40.1	16.0	56.1	24.5	80.6
Benthos	30.4	3.0	33.4	8.0	41.4	40.4	81.8
Cod	16.2	1.0	17.2	8.5	25.7	23.1	48.8
Experimental Studies	14.4	3.0	17.4	8.5	25.9	24.8	50.7
Flounder	9.4	5.0	14.4	18.1	32.5	25.0	57.5
Groundfish Ecology	39.2	6.0	45.2	34.0	79.2	28.0	107.2
Haddock	22.9	2.0	24.9	8.0	32.9	27.5	60.4
Total Regular	195.3	30.0	225.3	110.4	335.7	193.3	529.0

S/K Funds

Hake	40.0	8.8	48.8	-	48.8	-	48.8
Oceanography	-	28.0	28.0	-	28.0	-	28.0
Plankton	17.1	1.0	18.1	14.7	32.8	-	32.8
Population Dynamics	41.1	6.0	47.1	28.9	76.0	-	76.0
Redfish	24.9	2.0	26.9	12.1	39.0	-	39.0
Sea Scallops	26.3	8.2	34.5	38.4	72.9	9.0	81.9
Total S/K	149.4	54.0	203.4	94.1	297.5	9.0	306.5
Grand Total	344.7	84.0	428.7	204.5	633.2	202.3	835.5

19 July 1963.

Analysis of Recent Budgets, Biological Laboratory, Woods Hole, Massachusetts.

F/Y	Number Biologists	Salary Costs Biologists	Number all Non-Vessel Personnel	Salary Costs All Non-Vessel Personnel	Vessel Operations Cost	Other Direct Costs	Total Allotment	Remarks
1965	22	\$237,864	58	\$470,879	\$305,500 <sup>1/</sup>			
1964	22	219,957	58	450,176	202,300	\$186,324	\$838,800	Albatross IV operations budget 1964 is for 8 months.
1963	24	207,985	63	435,989	188,226	193,985	818,200 <sup>2/</sup>	\$39,000 transferred to Delaware, \$188,000 spent on Albatross IV.
1962	24	190,081	61	420,350	none	96,257	516,607	No funds allotted for vessel.
1961	20	165,778	54	368,493	110,000	122,217	490,710	\$110,000 transferred to Delaware, Port Personnel Transferred from Woods Hole.
1960	20	148,596	62	345,688	110,000	109,687	565,375	\$110,000 for Delaware operations.
1959	19	119,075	59	291,037	133,553	130,412	555,002	Albatross III laid up March 1959, \$9,000 transferred to Delaware.
1958	23	133,152	62	293,289	171,010	89,686	553,985	
1957	22	125,202	60	277,557	191,544	107,392	576,493	

<sup>1/</sup> Also need salary increases for shore based vessel personnel

Salary increase years: F/Y 1959, 1961, 1963.

WHOI Contract included in totals.

<sup>2/</sup> Increases in 1963 included \$77.0 for foreign fishing and \$114.00 for vessel operations - Total \$191.0.

Narrative Justification for Increases  
Subactivity 131, Coastal and Offshore Research  
Fiscal Year 1965

Need for Increase. An increase of \$216,600 is needed in the groundfish investigations of the North Atlantic region for the following purposes:

- A. To intensify our surveys of the groundfish populations of the North Atlantic which have recently been subjected to increased fishing pressure, particularly by the Russian fleet.
- B. To make observations of environmental conditions and relate these to any observed changes in abundance of groundfish or relative successes of spawning.
- C. To attempt to assess the total effect of the recent increased effort in terms of the wise utilization of the resource, and upon the availability of fish to the American fisherman.

Plan of Work. The ALBATROSS IV will be used in an intensive sampling program in the Northwest Atlantic, particularly on Georges Bank and surrounding waters.

Surveys of adult fish will be made throughout this area and throughout the year. Special cruises will be designed to estimate the abundance of immature fish, and extensive plankton collections will be made to estimate the extent of spawning, and the possible effect of fishing on the spawning stocks.

Examination of environmental conditions must be intensified in order to interpret intelligently the population changes which are observed. Estimates of abundance of eggs and larvae will be made and the fate of these planktonic stages will be followed. Variations in the success of year classes will be compared with the variations in fishing effort and in environmental conditions.

Conclusions arrived at will be used in advising management as to value of possible regulation of the fishing effort. This is an important commitment of the United States to the International Commission for the Northwest Atlantic Fisheries.

## Status of Program Statement

Coastal and Offshore Research, Subactivity 131

21 August 1963

The Woods Hole Laboratory programs are concerned with the populations of groundfish (cod, haddock, hake, flounder, redfish) and sea scallops in the Northwest Atlantic. Basic information is obtained on the natural fluctuations in abundance of these populations and upon the effects of fishing.

Monitoring the ever-changing age structure of the populations of the important species is a prime objective of the subactivity since such information is essential to predictive techniques and to the formulation of management proposals. Biological studies have now progressed to the point where such monitoring is conducted for Georges Bank haddock, New England yellowtail flounder, and Georges Bank sea scallop. Work on the other species has not yet reached this degree of refinement, but fluctuations in their population structures are recorded in terms of changing length distributions and indices of abundance.

Population structure of the fished populations is obtained from market samples of the important species. Information on the pre-recruits (fish smaller than those acceptable to the market) is obtained from surveys conducted by research vessels. On the basis of the combined information, reliable predictions have been made for cod, haddock, yellowtail flounder, redfish, and sea scallops. However, additional work on growth rates, ageing techniques, and sampling procedures is required in order to bring our predictions to a higher level of precision.

Overfishing is a constant threat in the commercial fisheries and it is the responsibility of the fishery biologist to recommend means by which a maximum sustained yield may be obtained. The Woods Hole Laboratory provides information used in formulating management measures for the groundfish of the Northwest Atlantic. These fisheries are managed through the International Commission for the Northwest Atlantic Fisheries. To date, cod, haddock, flounder, and redfish are under regulation in part or all of the Convention Area. Management measures for other species such as whiting and sea scallops are being considered and active research is being pursued toward this end.

Environmental studies are conducted in order to broaden our understanding of the causes of the changing abundance of fishes. These studies include studies of bottom sediments, benthic organisms, the physical and chemical conditions of the water and current patterns.

An understanding of the effects of environmental conditions on the abundance and availability of fishes is required in any intelligent appraisal of the effects of fishing effort on the stocks of fish.

Our research on the fishes of the North Atlantic has taken on a new urgency with the development of the Russian fishing fleet which has tremendously increased the effort on the already exploited stocks. Two years ago this fleet moved into waters close to home - Georges Bank - and began a heavy exploitation of herring stocks. Although these stocks of mature herring were of no interest to the American fisherman, it is our responsibility to determine the effects depletion of these stocks might have on the more desirable groundfish stocks.

Last year the Russian fleet turned its attention to whiting (Silver Hake) as well as herring. Exploiting this groundfish places them directly in competition with the United States fleet. This year we learn that the Russian fleet is taking other groundfish and have fished within a few miles of Cape Cod.

Russian biologists are making their own studies of these populations. It is essential that we have our own independent investigations to compare with theirs. Otherwise the International Commission for the Northwest Atlantic Fisheries will have only the Russians' conclusions upon which to make decisions regarding management.

The ALBATROSS IV is now in service and is being used to make intensive surveys in the critical areas. The data must be analysed promptly and results made quickly available in order to keep abreast of this rapidly expanding fishery.



UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF COMMERCIAL FISHERIES

OPERATING PROGRAM

Field Station or Office of Origin <b>Woods Hole, Massachusetts</b>	Region or Area <b>Region 3, Gloucester, Massachusetts</b>	
Subactivity (Symbol and Title) <b>131 Coastal &amp; Offshore Research</b>	Program Title: <b>Vessel Operations</b>	Program No. <b>130.7</b>

PROGRAM COMPONENTS OF COST	Previous Program	This Action	Current Program
10. Personal Services (Detail on reverse side) -----	126,002		126,002
21. Travel and Transportation of Persons -----			
22. Transportation of Things -----	700		700
23. Rent, Communications & Utility Services -----	17,000		17,000
24. Printing and Reproduction -----	44,000		44,000
25. Other Services -----	5,598	+3,300	8,898
26. Supplies and Materials -----			
31. Equipment -----			
Other -----			
Sub Total Program Direct Cost -----	193,300	+3,300	196,600
Program Indirect Cost -----			
<b>TOTAL OPERATING PROGRAM</b>	<b>193,300</b>	<b>+ 3,300</b>	<b>196,600</b>

BREAKDOWN BY PROGRAM FEATURE

NUMBER	PROJECT (Units)	Previous Program	This Action	Current Program
1	Personal Svcs 126,002	126,002		
2	Deck Dept. 1,667	1,667		
3	Engr'g 18,000	18,000		
4	Mess Dept. 11,667	11,667		
5	Electronics 1,667	1,667		
6	Vessel Repair 30,000	30,000		
7	Utilities 700	700		
8	Fishing Gear 3,597 +3,300	6,897		
<b>Benefiting Programs</b>				
131.18	Flounder 25,000	25,000		25,000
131.33	Cod 23,100	23,100		23,100
131.34	Haddock 27,500	27,500	+ 3,300	30,800
131.35	Benthos 40,400	40,400		40,400
131.37	Experimental Studies 24,800	24,800		24,800
131.50	Groundfish Ecology 20,000	20,000		20,000
131.97	Asses. of Foreign Fishing 24,500	24,500		24,500
	Sub Total Program Direct Cost -----	193,300	+ 3,300	196,600
	Program Indirect Cost -----			
	<b>TOTAL OPERATING PROGRAM</b>	<b>193,300</b>	<b>+ 3,300</b>	<b>196,600</b>

ESTIMATE OF EXPENDITURES BY QUARTERS - F.Y. 19

Object Class	First	Second	Third	Fourth
Personal Services				
All Other Expenditures				
Total Operating Program				

Prepared By: Richard E. Graham Laboratory Director 10/25/62 Date

Approved By: \_\_\_\_\_ Name Title Date

Albatross IV

Personal (name)	Title	12 mo. operation cost
Benham	Fisherman	7,951
Beattay	Master	13,119
Benevento	2nd Asst.	8,348
Berry	Messman	4,910
Clapp	Fisherman	7,951
Cusick	1st Officer	9,143
Eldridge	Messman	4,910
Ferreira	Fisherman	7,951
Frontiero	Fisherman	7,951
Grant	Fisherman	7,951
Jones	Fisherman	7,951
Laughhead	Oiler	4,910
Macinnes-Barker	Cook	7,951
Merchant	Steward	8,746
Stimberis	2nd Officer	8,746
Webber	1st Asst. Engineer	7,951
Welch	Fisherman	7,951
Vadala	Fisherman	7,951
Winslow	Chief Engineer	10,854
		153,991

Shore Based

Oeseniorf	Port Captain (GS 12)	10,506
Ohig	Electronic Tech (GS9)	7,484
Smith	Clerk (GS3)	4,190
Watchman (WAE)	Uncl.	6,831
		29,011

Temporary Employees (to provide for sick leave) 6,000

12 mo operation personal total 189,002

8 mo. operation personal total 126,002

Equipment List

- Dredge 500
- Nets 4,000
- Electronic Equipment 1,000

## ALBATROSS IV BUDGET

FY 1965

I.	Vessel wages including 8% and sick leave replacement		\$160,000
II.	Wages shore personnel including 8%	\$23,280	
	Watchmen	<u>10,000</u>	33,280
III.	Stewards department--Food	23,700	
	Supplies and laundry	<u>3,500</u>	27,200
IV.	Engine department--Fuel	34,300	
	Lube and supplies	<u>4,800</u>	39,100
V.	Repairs		
	Haulout, main engine and gen., etc.	20,000	
	Repairs to equipment	<u>12,000</u>	32,000
VI.	Deck department--Supplies	4,800	
	Fishing gear	<u>13,200</u>	18,000
VII.	Electronics		2,500
VIII.	Utilities		3,900
			<u>315,980</u>
	TOTAL		\$315,980

December 31, 1963

UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF COMMERCIAL FISHERIES

OPERATING PROGRAM

(Budget) 1963-1964

Field Station or Office of Origin <b>Woods Hole, Mass.</b>	Region or Area <b>Regional Office #3, Gloucester, Massachusetts</b>
Subactivity (Symbol and Title) <b>430-431 Coastal &amp; Offshore Research</b>	Program Title: <b>Technical &amp; Administrative</b>
	Program No. <b>430.1</b>

PROGRAM COMPONENTS OF COST	Previous Program	This Action	Current Program
10. Personal Services (Detail on reverse side) - - - - -		72,135	72,135
21. Travel and Transportation of Persons - - - - -		6,000	6,000
22. Transportation of Things - - - - -		500	500
23. Rent, Communications & Utility Services - - - - -			
24. Printing and Reproduction - - - - -		2,000	2,000
25. Other Services - - - - -			
26. Supplies and Materials - - - - -		7,000	7,000
31. Equipment - - - - -		6,465	6,465
Other - - - - -			
Sub Total Program Direct Cost - - - - -		94,100	94,100
Program Indirect Cost - - - - -			
<b>TOTAL OPERATING PROGRAM</b>		<b>94,100</b>	<b>94,100</b>

BREAKDOWN BY PROGRAM FEATURE

NUMBER	PROJECT	Previous Program	This Action	Current Program
	Administrative Offices		80,034	80,034
	Meeting Travel		5,000	5,000
	Library		9,066	9,066
	<u>Benefiting Programs</u>			
431.82	Redfish		12,100	12,100
431.83	Sea Scallops		38,400	38,400
431.74	Hake		14,700	14,700
431.36	Plankton		28,900	28,900
431.20	Population Dynamics			
	Sub Total Program Direct Cost - - - - -		94,100	94,100
	Program Indirect Cost - - - - -			
	<b>TOTAL OPERATING PROGRAM</b>		<b>94,100</b>	<b>94,100</b>

ESTIMATE OF EXPENDITURES BY QUARTERS - F.Y. 19

Object Class	First	Second	Third	Fourth
Personal Services				
All Other Expenditures				
Total Operating Program				

Prepared By: \_\_\_\_\_ Name \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
 Approved By: **Herbert W. Graham** Laboratory Director **7/19/63** Date

<u>Personnel (name)</u>	<u>Grade</u>	<u>Cost</u>
Dr. Graham	GS 15	18,319 ✓
Mackesy	11	9,489 ✓
Hilton	4	4,685 ✓
Leonard	7	6,568 ✓
Kiernan	6	6,665 ✓
Cairns	4	5,403 ✓
Howe	4	4,960 ✓
Philpott	4	4,887 ✓
Goulart	3	4,158 ✓
Deacon	3	4,352 ✓
McConnell	3	4,201 ✓
<b>Total personal services</b>		<b>72,155</b>

Equipment List

Aluminum Skiff	300
Motors	1,000
Outboards	200
Stencil Cutter	300
Power Hack Saw	500
Bathythermographs	3,000

UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF COMMERCIAL FISHERIES

OPERATING PROGRAM

Field Station or Office of Origin <b>Woods Hole, Massachusetts</b>	Region or Area <b>Region 3, Gloucester, Massachusetts</b>
Subactivity (Symbol and Title) <b>131 Coastal &amp; Offshore Research</b>	Program Title: <b>Technical &amp; Administrative</b> Program No. <b>130.1</b>

PROGRAM COMPONENTS OF COST	Previous Program	This Action	Current Program
10. Personal Services (Detail on reverse side) - - - - -		77,875	77,875 ✓
21. Travel and Transportation of Persons - - - - -		1,500	1,500 ✓
22. Transportation of Things - - - - -			
23. Rent, Communications & Utility Services - - - - -		10,000	10,000 ✓
24. Printing and Reproduction - - - - -		3,000	3,000
25. Other Services - - - - -			
26. Supplies and Materials - - - - -		12,525	12,525
31. Equipment - - - - -		5,500	5,500
Other - - - - -			
Sub Total Program Direct Cost - - - - -		110,400	110,400
Program Indirect Cost - - - - -			
<b>TOTAL OPERATING PROGRAM</b>		<b>110,400</b>	<b>110,400</b>

BREAKDOWN BY PROGRAM FEATURE

NUMBER	PROJECT	Previous Program	This Action	Current Program
	Station Maintenance		81,196	81,196
	Instrumentation		11,169	11,169
F	Photography		8,566	8,566
0	Drafting		6,169	6,169
	<u>Benefiting Programs</u>			
131.18	Flounder		18,100	18,100
131.33	Cod		8,500	8,500
131.34	Sudlock		8,000	8,000
131.35	Benthos		8,000	8,000
131.37	Experimental Studies		8,500	8,500
131.56	Groundfish Ecology		31,000	31,000
131.73	Aquarium		9,300	9,300
131.97	Assessment of Foreign Fishing		16,000	16,000
	Sub Total Program Direct Cost - - - - -		110,400	110,400
	Program Indirect Cost - - - - -			
	<b>TOTAL OPERATING PROGRAM</b>		<b>110,400</b>	<b>110,400</b>

ESTIMATE OF EXPENDITURES BY QUARTERS - F.Y. 19

Object Class	First	Second	Third	Fourth
Personal Services				
All Other Expenditures				
<b>Total Operating Program</b>				

Prepared By: \_\_\_\_\_ Name *Robert W. Graham* Title *Laboratory Director* Date *7/29/63*

Approved By: \_\_\_\_\_ Name *Robert W. Graham* Title *Laboratory Director* Date *7/29/63*

<u>Personnel (name)</u>	<u>Grade</u>	<u>Cost</u>
Cressen	GS 10	9,160 ✓
Ashmore	5	5,469 ✓
Brigham	9	7,556 ✓
Macaulay	11	9,348 ✓ <i>not in 1967</i>
Costa	Uncl.	6,270 ✓
Almeida	Uncl.	6,088 ✓
Neal	Uncl.	6,088 ✓
Loring	Uncl.	6,088 ✓
Folley	Uncl.	4,908 ✓
		<u>60,996</u>

Summer students

(A)	GS 4	1,117
(B)	3	1,039
(C)	2	998
(D)	2	998
		<u>4,989</u>

Overtime - 12,800 12,800 in

**Total personal services 77,875**

Equipment List

Automobile 2,000  
Refrigerator 200